

### Remarks

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding office action is respectfully requested.

Attached hereto is an annex entitled "Version of Markings to Show Changes Made." In this annex, amendments to the specification and claims are marked by underlining inserted texts and striking through deleted texts using a single line.

Claims 2-4, 6 and 9-10 remain in this application. Claims 1 and 7 have been amended. Claims 5 and 8 have been canceled without prejudice. No new claims have been added in this Response.

#### **1. Drawings**

##### *I. Item 1 of the Detailed Action*

In this item of the Detailed Action, the Examiner objected to the drawings, and in particular, FIGURE 1. Applicant submits that the different parts of the device illustrated in the originally filed FIGURE 1 were not all correctly marked. In response, Applicant respectfully submits herewith informal drawings including FIGURE 1, with proposed revisions marked in red for the Examiner's review and approval. Those proposed revisions include:

Change numeral "14" at the lower left portion of FIGURE 1 to read --12--; and

Change numeral "14" at the upper right portion of FIGURE 1 to read --16--.

Applicant submits that upon such amendments, the elements as described in page 3, section [0016] of the specification are all included in FIGURE 1.

Formal drawings will be duly prepared and submitted upon the Examiner's approval of the amendments, supra.

#### **2. Specification**

##### *II. Item 2 of the Detailed Action*

The Examiner has indicated an informality or typographical error in the specification in page 3, section [0016] in this item of the Detailed Action. Applicant submits that it has been corrected above as appropriate.

#### **3. Rejections under 35 U.S.C. § 112**

*III. Item 3 of the Detailed Action*

In this item of the Detailed Action, the Examiner rejected claim 7 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner asserted that the wording "sufficient" used in this claim rendered the claim indefinite. While Applicant respectfully disagrees to this point, the amendments to claims 1 and 7, supra, have resolved this issue. The reason why Applicant deleted "sufficient" and similar wordings in claim 1 and 7 is because, by limiting the claims in terms of the composition of the glass, such wordings are no longer necessary.

**4. Claim Objections**

*IV. Item 4 of the Detailed Action*

In this item of the Detailed Action, the Examiner objected to claim 2. The Examiner asserted that the use of "nm" as wavelength units was an informality because "mm" was used as glass thickness unit. Applicant respectfully disagree. It is well known to one of skill in the art that the typically used unit of wavelength in the visible light spectrum is "nm," but not "mm."

**5. Rejections under 35 U.S.C. § 103**

*V. Items 5 and 6 of the Detailed Action*

In these items of the Detailed Action, the Examiner has rejected claims 1-11 under 35 U.S.C. § 103 as being unpatentable for obviousness over U.S. Patent No. 5,844,721 (Karpen), in view of Great British Published Patent Application No. 0441128 (GB '128), further in view of Applicant's disclosure in the application.

The Examiner noted that Karpen disclosed a Nd<sub>2</sub>O<sub>3</sub>-containing glass used in a vehicular rearview mirror wherein the Nd<sub>2</sub>O<sub>3</sub> concentration ranges from 5-30%. The Examiner pointed out that GB'128 disclosed a glass having the following compositional range:

SiO <sub>2</sub>	40-60%
Nd <sub>2</sub> O <sub>3</sub>	10-30%
B <sub>2</sub> O <sub>3</sub>	5-15%
Na <sub>2</sub> O	3-18%
ZnO	0.1-10%
K <sub>2</sub> O	0-3

Al<sub>2</sub>O<sub>3</sub> 0-7.

The Examiner went on to assert that

Karpen discloses a rearview mirror with a specific example that utilizes an alkali zinc silicate glass however a specific glass composition is not mentioned. The glass disclosed by GB '128, has the composition of a alkali zinc silicate glass that can be used as a filter. As such, it is within the skill of one in the art to modify the rearview mirror of Karpen with the glass made from the composition of GB '128 to obtain rearview mirror having a Nd<sub>2</sub>O<sub>3</sub> containing glass with more than 5 wt% of Nd<sub>2</sub>O<sub>3</sub> present in the glass to obtain a rearview mirror that blocks more yellow light making for a better night vision for the driver.

Applicant respectfully disagrees to this point and traverses this rejection, with the above amendments duly taken into consideration.

The Examiner failed to meet his burden of establishing a prima facie case of obviousness in this rejection.

With regard to the Examiner's duty of establishing a prima facie obviousness case in the Office Action, the MPEP provides,

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

MPEP, 2142, Eighth Edition.

First, the references the Examiner relied on in rendering the rejection, Karpen and GB '128, do not teach or suggest all the claim limitations of claims 1 and 7, as amended.

The compositional range of the glass as disclosed in GB '128 is very different than the glass of the present application. The Examiner's attention is particularly directed, inter alia, to the ranges of SiO<sub>2</sub> and K<sub>2</sub>O. GB '128 discloses that SiO<sub>2</sub> ranges from 40-60%, whereas the present application stipulates that SiO<sub>2</sub> ranges from 55-70%. Indeed, GB '128 teaches that SiO<sub>2</sub> over 60% is undesired. See page 6, lines 29-30 of GB '128. GB '128 discloses K<sub>2</sub>O ranges from 0-3%, whereas the present application glass contains 2-9% of K<sub>2</sub>O. Moreover, GB '128, in Table 2 of page 5, discloses that the it is preferred and most

preferred that its glass does not contain  $K_2O$  at all. Therefore, in terms of  $K_2O$  content, GB '128 teaches, if anything, away from the present application.

Concerning GB '128, the Examiner's attention is further directed to the 24 example glasses listed in Table 4, page 8. None of the examples 1-24 has a glass composition falling within the claimed scope of claims 1 and 7, as amended, of the present application. All of them, except example 24, do not contain  $K_2O$  as a component. All of them, except example 1, contain less than 55% by weight of  $SiO_2$ . All of them, except example 24, contain more than 11% by weight of  $Na_2O$ . Glass example 24, though contains  $K_2O$ , contains less than 3%  $ZnO$ , and does not contain  $Al_2O_3$ . The Examiner used the softening temperature data of examples 19 and 20 in support of his rejection. Applicant respectfully submits that since these two examples do not have the glass compositions as claimed in the claims 1 and 7, as amended, of the present application, the fact that their softening temperatures fall within the claimed range of claim 10 is irrelevant.

In view of the vast distinctions between the glass compositions disclosed in GB '128 and the present application, one of skill in the art would not be motivated to combine Karpen with GB '128 to arrive at the invention of claims 1 and 7, as amended, of the present application.

Second, there is no reasonable success to achieve the present invention reflecting mirror of claim 1, as amended, and glass sheet of claim 7, as amended, by combining the teachings of the Karpen and GB '128.

The Examiner's attention is directed to page 4, sections [0021] to [0023] of the present application. Special processing is required for producing thinner glass sheet. Alkali metal-zinc-borosilicate glass is a family of glass typically used for producing glass sheet in the slot draw process. However,  $Nd_2O_3$  does not always stay dissolved in these base glasses. It has been found and disclosed in the specification that the glass tends to devitrify with  $Nd_2O_3$  crystals separating from the glass. Therefore, one of skill in the art would not be able to produce the glass sheet and reflecting mirror of the present invention from the teaching of GB '128 and Karpen, combined.

## 6. Conclusion

Based upon the above amendments, remarks, and papers of record, Applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests reconsideration of the pending claims 1-4, 6, 7, 9 and 10, as amended, and a prompt Notice of Allowance thereon.

Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Response timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

The undersigned attorney has been granted limited recognition by the Office of Enrollment and Discipline to practice before the USPTO on behalf of Corning Incorporated. A copy of such limited recognition is attached herewith. It is also respectfully requested that such document be entered into the file of the present application.

Please direct any phone call to the undersigned at (607) 248-1253.

Respectfully submitted,

CORNING INCORPORATED

  
Siwen Chen

Registration No.: Limited Recognition  
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Date: February 5, 2003

Date of Deposit: February 6, 2003  
I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date indicated above with sufficient postage as first class mail in an envelope addressed to the: Commissioner of Patents and Trademarks, Washington, DC 20231

Signature 

## VERSION OF MARKINGS TO SHOW CHANGES MADE

### In the specification

*Please amend page 3, section [0016] as follows:*

FIGURE 1 is a side elevational view of a typical rearview mirror embodying the invention, and generally designated 10. Mirror 10 comprises a standard casing or enclosure 12 and a microsheet glass member 16 having a reflecting surface 14, e.g., a silver film on its rear surface. Glass member 16 may be bonded to casing 12 in known manner. One such structure is shown in United States Patent No. 5,566,031 (→).

### In the claims

1. (Amended) A reflecting mirror comprising a sheet of an alkali metal-zinc-borosilicate glass bonded to a reflecting surface, the glass sheet having a thickness less than 0.5 mm, and being doped with  $\text{Nd}_2\text{O}_3$  ~~in an amount sufficient to~~ substantially reduce the spectral transmission of the glass in the wavelength range of 565-595 nm, wherein the alkali metal-zinc-borosilicate glass consists essentially, by weight percent on an oxide basis, of

<u><math>\text{SiO}_2</math></u>	<u>55-70%</u>
<u><math>\text{Al}_2\text{O}_3</math></u>	<u>0.5-4.5%</u>
<u><math>\text{B}_2\text{O}_3</math></u>	<u>6-14%</u>
<u><math>\text{ZnO}</math></u>	<u>3-10%</u>
<u><math>\text{Na}_2\text{O}</math></u>	<u>5-11%</u>
<u><math>\text{K}_2\text{O}</math></u>	<u>2-9%</u>
<u><math>\text{Na}_2\text{O} + \text{K}_2\text{O}</math></u>	<u>7-20%</u>
<u><math>\text{Nd}_2\text{O}_3</math></u>	<u>at least 5%.</u>

2. A reflecting mirror in accordance with claim 1 wherein the glass sheet has a thickness of 0.3 to 0.4 mm.
3. A reflecting mirror in accordance with claim 1 wherein the transmitted radiation at a wavelength of 585 nm is less than 50%.

4. A reflecting mirror in accordance with claim 3 wherein the transmitted radiation at 585 nm is less than 30%.
5. ~~(Deleted) A reflecting mirror in accordance with claim 1 wherein the glass is doped with at least 5%  $\text{Nd}_2\text{O}_3$  by weight.~~
6. A reflecting mirror in accordance with claim 1 wherein the reflecting surface is a silver coating on the back of the glass sheet.
7. *(Amended)* A thin sheet of alkali metal-zinc-borosilicate glass containing sufficient  $\text{Nd}_2\text{O}_3$  to reduce the transmission of radiation at a wavelength of 585 nm to a value less than 50%-, wherein the alkali metal-zinc-borosilicate glass consists essentially, by weight percent on an oxide basis, of
- |  |                     |
|--|---------------------|
| <u><math>\text{SiO}_2</math></u>                             | <u>55-70%</u>       |
| <u><math>\text{Al}_2\text{O}_3</math></u>                    | <u>0.5-4.5%</u>     |
| <u><math>\text{B}_2\text{O}_3</math></u>                     | <u>6-14%</u>        |
| <u>ZnO</u>   | <u>3-10%</u>        |
| <u><math>\text{Na}_2\text{O}</math></u>                      | <u>5-11%</u>        |
| <u><math>\text{K}_2\text{O}</math></u>                       | <u>2-9%</u>         |
| <u><math>\text{Na}_2\text{O} + \text{K}_2\text{O}</math></u> | <u>7-20%</u>        |
| <u><math>\text{Nd}_2\text{O}_3</math></u>                    | <u>at least 5%.</u> |
8. ~~(Deleted) A glass sheet in accordance with claim 7 in which the content of  $\text{Nd}_2\text{O}_3$  is at least 5% by weight.~~
9. A glass sheet in accordance with claim 7 wherein the sheet has a thickness of less than 0.5 mm.
10. A glass sheet in accordance with claim 7 wherein the glass has a liquidus viscosity of at least 20,000 poises and a softening point temperature in the range of 700-750°C.

11. (Deleted) A glass sheet in accordance with claim 7 wherein the glass has a composition, expressed in weight percent on an oxide basis, consisting essentially of the following oxides within the indicated ranges:

$\text{SiO}_2$	55-70%
$\text{Al}_2\text{O}_3$	0.5-4.5%
$\text{B}_2\text{O}_3$	6-14%
$\text{ZnO}$	3-10%
$\text{Na}_2\text{O}$	5-11%
$\text{K}_2\text{O}$	2-9%
$\text{Na}_2\text{O} + \text{K}_2\text{O}$	7-20%
$\text{Nd}_2\text{O}_3$	at least 5%



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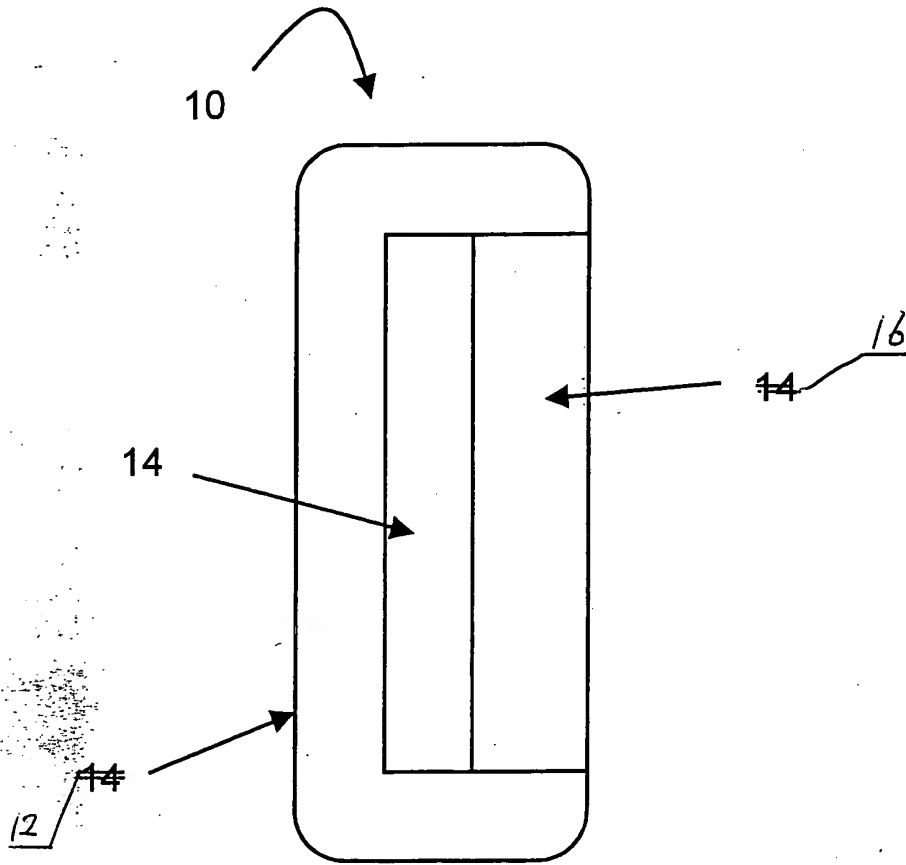
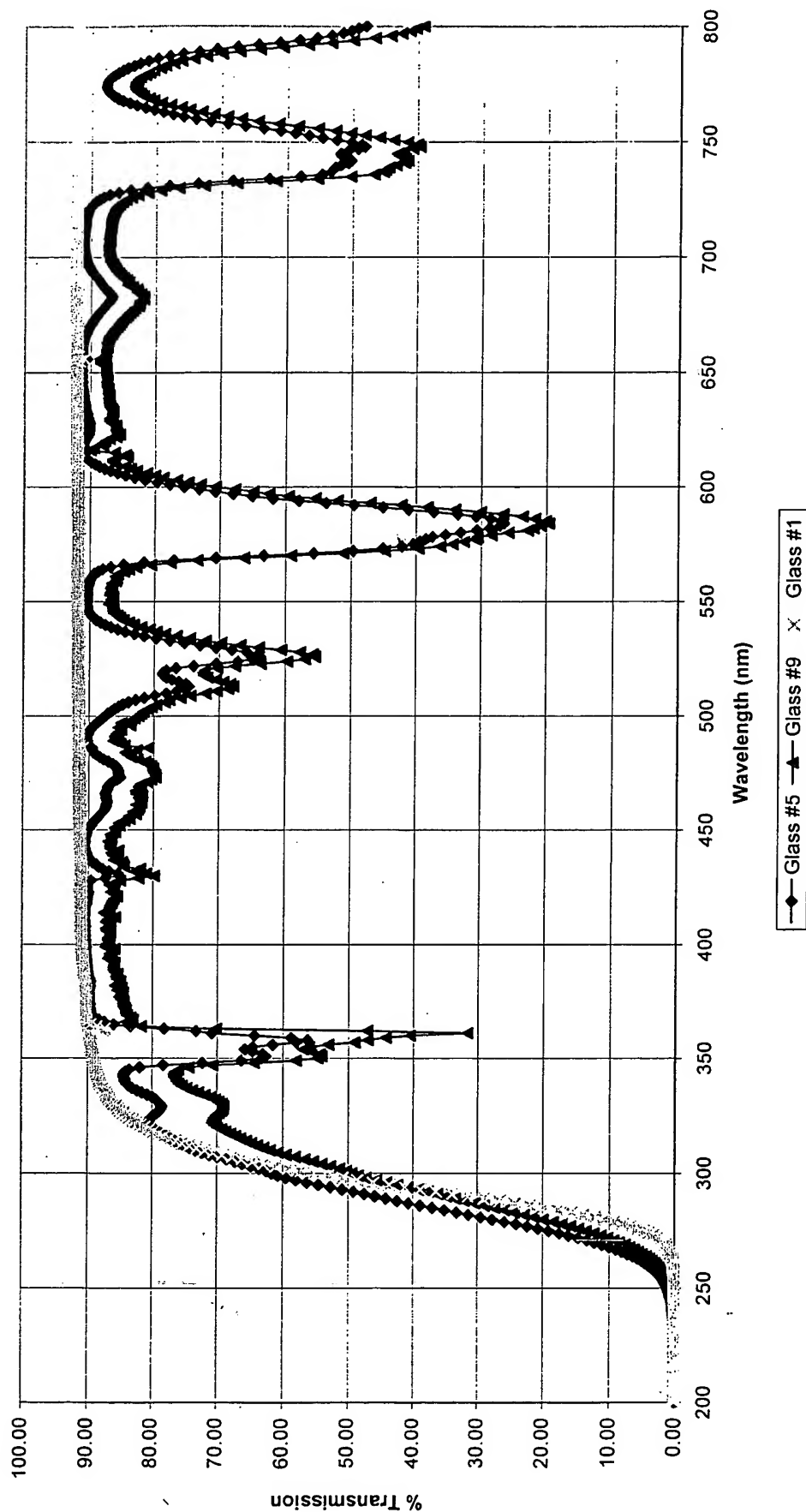


FIGURE 1



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FIGURE 2





**BEFORE THE OFFICE OF ENROLLMENT AND DISCIPLINE  
UNITED STATE PATENT AND TRADEMARK OFFICE**

**LIMITED RECOGNITION UNDER 37 CFR § 10.9(b)**

Siwen Chen is hereby given limited recognition under 37 CFR § 10.9(b) as an employee of Corning Incorporated to prepare and prosecute patent applications wherein Corning Incorporated is the assignee of all right, title and interest in the invention claimed in the application. This limited recognition shall expire on the date appearing below, or when whichever of the following events first occurs prior to the date appearing below: (i) Siwen Chen ceases to lawfully reside in the United States, (ii) Siwen Chen's employment with Corning Incorporated ceases or is terminated, or (iii) Siwen Chen ceases to remain or reside in the United States on an H-1 visa.

This document constitutes proof of such recognition. The original of this document is on file in the Office of Enrollment and Discipline of the U.S. Patent and Trademark Office.

**Expires: November 19, 2003**

Harry I. Moatz  
Director of Enrollment and Discipline

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